

# TEMPLE UNIVERSITY

Department of Mathematics

## Analysis Seminar

Room 617 Wachman Hall

Monday, December 1, 2014, 2:40 p.m.

### *Failure of the Weierstrass Preparation Theorem in Quasi-analytic Denjoy-Carleman Rings*

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In 1976 Childress proved Weierstrass Division failed in quasi-analytic Denjoy-Carleman rings. While Weierstrass Division implies the Weierstrass Preparation Theorem, the reverse is not known to hold. The question of whether the Weierstrass Preparation Theorem held for Denjoy-Carleman functions or not remained open for over 30 years. In joint work with Francesca Acquistapace, Fabrizio Broglia, Michail Bronshtein, and Nahum Zobin, we showed the Weierstrass Preparation Theorem fails for Denjoy-Carleman functions by proving a strong non-extension result.